

REMARKS

Claims 1, 2, 7, 8, 13, 14, 16, 18, and 20 are currently amended. Applicant respectfully submits that the amendments contained herein are fully supported by the specification and drawings as originally filed and do not contain new matter.

Claim Objections

Claim 1, 2, 8, 14, and 18 were objected to because the phrase “the marked line” lacked proper antecedent basis. Claims 1, 2, 8, 14, and 18 are amended to overcome the objections thereto.

Claim Rejections Under 35 U.S.C. § 102

Claims 1-5, 8-11, 14-15, and 17 were rejected under 35 U.S.C. § 102(b) as being anticipated by Aji et al. (U.S. Patent No. 5,831,867). Applicant respectfully traverses.

Claims 1, 2, 8, and 14, as currently amended, include the recitations: “identifying with a line width marker only lines having a line width greater than an absolute minimum line width,” “associating a line width parameter with each line width marker, each line width parameter indicating a minimum line width for a corresponding one of the lines identified with a line width marker, the minimum line widths for the lines identified with a line width marker greater than the absolute minimum line width,” and “comparing the line width parameter for each line width marker with an actual layout line width.” This means that it is the minimum line width, which is greater than the absolute minimum line width, for only lines having a line width greater than the absolute minimum line width that is compared to the actual layout line width. Aji et al. does not include or suggest this.

Aji et al. (column 7, line 55, to column 8, line 12) first retrieves wire data for a first wire at block 514 of Figure 5B preferably from a layout file 104 (Figure 1). A minimum wire width is then determined block 516. After determining the minimum wire width at block 516, decision block 518 determines whether the wire width of the wire according to the integrated circuit design is greater than the minimum wire width. If the wire width is greater than the minimum wire width, the wire width is sufficient to satisfy process rules concerning electromigration given the lumped capacitance (LC) and the determined drive strength. However, there is no indication

in Aji et al. that the widths of the wires, such as the first wire of block 514, indicated in the wire data are only widths that are greater than an absolute minimum wire width and that the minimum wire width in decision block 518 is a minimum wire width for a wire having a width that is greater than an absolute minimum wire width, where the minimum wire width in decision block 518 is greater than the absolute minimum wire width, as required by claims 1, 2, 8, and 14. Alternatively, the YES output of decision block 518 could be viewed as identifying only wires having a width greater than an absolute minimum wire width. However, there is no indication of associating a line width parameter with each of these wires, where the line width parameter indicates a minimum line width for a corresponding one of these wires that is greater than the absolute minimum wire width, and subsequently comparing the line width parameter with a width of a layout line.

In the Office action the Examiner took the wire data (column 7, lines 55-67) as corresponding to the line width markers of each of claims 1, 2, 8, and 14 and a wire width in the wire data, the width of the first wire in block 514 of Figure 5B, as corresponding to width of the layout line of each of claims 1, 2, 8, and 14. The Examiner also took the minimum wire width (column 8, lines 5-8) in decision block 518 as corresponding to a line width parameter of each of claims 1, 2, 8, and 14 that is associated with the line width markers. The examiner took the action of decision block 518 as the comparison of the line width parameter to the width of a layout line of each of claims 1, 2, 8, and 14. However, each of claims 1, 2, 8, and 14 requires that the line width parameter indicate a minimum wire width that is greater than an absolute minimum line width, but there is no indication that the minimum wire width of decision block 518 is greater than an absolute minimum line width. Moreover, each of claims 1, 2, 8, and 14 requires that the line width markers identify only lines having a line width greater than an absolute minimum line width. However, there is no indication of the wire data, taken as corresponding to the line width markers by the Examiner, as identifying only lines having a line width greater than an absolute minimum line width. Therefore, Aji et al. does not include each and every recitation of each of claims 1, 2, 8, and 14, so each of claims 1, 2, 8, and 14 is allowable.

Claims 3-5 depend from claim 1 and are thus allowable for at least the same reasons as claim 1. Claims 9-11 depend from claim 8 and are thus allowable for at least the same reasons as

claim 8. Claims 15 and 17 depend from claim 14 and are thus allowable for at least the same reasons as claim 14.

Claim Rejections Under 35 U.S.C. § 103

Claims 6, 12, and 18-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Aji in view of one or more of Tan et al. (U.S. Patent No. 6,117,179) and/or Morrise et al. (U.S. Patent No. 6,557,149). Applicant respectfully traverses.

Claims 1 and 8 are each patentably distinct from Aji et al. Moreover, Aji et al. in combination with Tan et al., Aji et al. in combination with Morrise et al., or Aji et al. in combination with Tan et al. and Morrise et al., fails to overcome the deficiencies of Aji et al. with respect to each of claims 1 and 8. Therefore, claims 1 and 8 are allowable over Aji et al. in view of one or more of Tan et al. and/or Morrise et al. Claims 6 and 12 respectively depend from claims 1 and 8 and are thus respectively allowable for at least the same reasons as claims 1 and 8.

Claim 18, as currently amended, includes at least the same recitations as claims 1, 2, 8, and 14. That is, claim 18 includes the recitations “identifying with a line width marker only lines having a line width greater than an absolute minimum line width,” “associating a line width parameter with each line width marker, each line width parameter indicating a minimum line width for a corresponding one of the lines identified with a line width marker, the minimum line widths for the lines identified with a line width marker greater than the absolute minimum line width,” and “comparing the line width parameter for each line width marker with an actual layout line width” of claims 1, 2, 8, and 14. Therefore, claim 18 is allowable over Aji et al. for at least the same reasons as claims 1, 2, 8, and 14. Moreover, Aji et al. in combination with Tan et al., Aji et al. in combination with Morrise et al., or Aji et al. in combination with Tan et al. and Morrise et al., fails to overcome the deficiencies of Aji et al. with respect to claim 18. Therefore, claim 18 is allowable over Aji et al. in view of one or more of Tan et al. and/or Morrise et al. Claim 19 depends from claim 18 and is thus allowable for at least the same reasons as claim 18.

Claims 7, 13 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Aji in view of one or more of Chonan (U.S. Publication No. 2004/0212402), Mori et al. (U.S.

Publication No. 2004/0013023), and/or Takabayashi et al. (U.S. Publication No. 2003/0200509).

Applicant respectfully traverses.

Claims 1, 8, and 14 are each patentably distinct from Aji et al. Moreover, Aji et al. in combination with Chonan, Aji et al. in combination with Mori et al., Aji et al. in combination with Takabayashi et al., Aji et al. in combination with Chonan and Mori et al., Aji et al. in combination with Chonan and Takabayashi et al., Aji et al. in combination with Mori et al. and Takabayashi et al., or Aji et al. in combination with Chonan, Mori et al., and Takabayashi et al. fails to overcome the deficiencies of Aji et al. with respect to each of claims 1, 8, and 14. Therefore, each of claims 1, 8, and 14 is allowable over Aji et al. in view of one or more of Chonan, Mori et al., and/or Takabayashi et al. Claims 7, 13, and 16 respectively depend from claims 1, 8, and 14 and are thus respectively allowable for at least the same reasons as claims 1, 8, and 14.

Claim 20 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Aji in view of one or more of Tan and/or Morrise in further view of one or more of Chonan, Mori, and/or Takabayashi. Applicant respectfully traverses.

Claim 18 is patentably distinct from Aji et al. in view of one or more of Tan et al. and/or Morrise et al. Moreover, Aji et al. in view of one or more of Tan et al. and/or Morrise et al. in combination with Chonan, Aji et al. in view of one or more of Tan et al. and/or Morrise et al. in combination with Mori et al., Aji et al. in view of one or more of Tan et al. and/or Morrise et al. in combination with Takabayashi et al., Aji et al. in view of one or more of Tan et al. and/or Morrise et al. in combination with Chonan and Mori et al., Aji et al. in view of one or more of Tan et al. and/or Morrise et al. in combination with Chonan and Takabayashi et al., Aji et al. in view of one or more of Tan et al. and/or Morrise et al. in combination with Mori et al. and Takabayashi et al., or Aji et al. in view of one or more of Tan et al. and/or Morrise et al. in combination with Chonan, Mori et al., and Takabayashi et al. fails to overcome the deficiencies of Aji et al. in view of one or more of Tan et al. and/or Morrise et al. with respect to claim 18. Therefore, claim 18 is allowable over Aji et al. in view of one or more of Tan and/or Morrise et al. in further view of one or more of Chonan, Mori et al., and/or Takabayashi et al. Claim 20 depends from claim 18 and is thus allowable for at least the same reasons as claim 18.

CONCLUSION

In view of the above remarks, Applicant believes that all pending claims are in condition for allowance and respectfully requests a Notice of Allowance be issued in this case. Please charge any further fees deemed necessary or credit any overpayment to Deposit Account No. 501373.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 312-2208.

Respectfully submitted,

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